

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 30. (Canceled)

31. (Currently Amended) An expandable polyamide composition comprising:
A: a compound having at least one isocyanate function protected with a protecting group;
B: a polyamide; and
C: a compound having at least one acid function, optionally a carboxylic acid function,
wherein said composition produces a foam upon the reaction of the components A and C and does not require the presence of additional compounds to produce the foam, and the polyamide is present in the composition in an amount greater than the amount of the compound having at least one isocyanate function.

32. (Previously Presented) The composition according to Claim 31, wherein the polyamide is an oligomer or a polymer with a number-average molecular mass of greater than or equal to 1,000 g/mol.

33. (Previously Presented) The composition according to Claim 31, wherein the polyamide is polyamide 6, polyamide 6,6, or blends and copolymers thereof.

34. (Previously Presented) The composition according to Claim 31, wherein the polyamide is a linear polyamide.

35. (Previously Presented) The composition according to Claim 31, wherein the polyamide comprises starburst or H-shaped macromolecular chains.

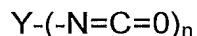
36. (Previously Presented) The composition according to Claim 31, wherein the polyamide is a copolyamide of random arborescent structure.

37. (Previously Presented) The composition according to Claim 31, wherein the polyamide is a composition comprising a linear polyamide and a starburst and/or H-shaped and/or arborescent polyamide.

38. (Previously Presented) The composition according to Claim 31, wherein the polyamide is a composition comprising a hyperbranched copolyamide.

39. (Previously Presented) The composition according to Claim 31, wherein compound A is a polyisocyanate.

40. (Previously Presented) The composition according to Claim 39, wherein the polyisocyanate is a polyisocyanate of formula (I):



wherein Y is a substituted or unsubstituted aromatic, aliphatic, cycloaliphatic or heterocyclic multivalent group optionally comprising hetero atoms and n is at least equal to 1.

41. (Previously Presented) The composition according to Claim 39, wherein the polyisocyanate is a diisocyanate or a triisocyanate.

42. (Previously Presented) The composition according to Claim 39, wherein the polyisocyanate is an isocyanurate.

43. (Previously Presented) The composition according to Claim 31, wherein compound A, the compound having at least one isocyanate function, is a compound other than a prepolymer or a polymer.

44. (Cancelled)

45. (Previously Presented) The composition according to Claim 31, wherein the protecting group is a lactam, optionally caprolactam.

46. (Previously Presented) The composition according to Claim 31, wherein the compound A has a deprotection temperature of the isocyanate functions

greater than the melting point or softening point of polyamide B.

47. (Previously Presented) The composition according to Claim 31, wherein compound C is a dicarboxylic acid.

48. (Cancelled)

49. (Previously Presented) The composition according to Claim 31, further comprising an additive selected from the group consisting of a pore-forming agent, a nucleating agent, a surfactant, a plasticizer, reinforcing fillers, matting agents, pigments, colorants, heat stabilizers, light stabilizers, bioactive agents, antisoiling agents, antistatic agents or flame retardants.

50. (Currently Amended) A process for preparing a polyamide foam from an expandable polyamide composition, comprising the steps of:

a) heating an expandable foam composition comprising:

(A) a compound having at least one isocyanate function protected with a protecting group;

(B) a polyamide; and

(C) a compound having at least one acid function, optionally a carboxylic acid function,

wherein said composition produces a foam upon the reaction of the components A and C and does not require the presence of additional compounds to produce the foam, and the polyamide is present in the

composition in an amount greater than the amount of the compound having at least one isocyanate function;

to a temperature of at least 80°C to obtain an alveolar structure,

- b) stabilizing the alveolar structure obtained in step a), and
- c) recovering the foam obtained in step b).

51. (Previously Presented) The process according to Claim 50, wherein the temperature of step a) is greater than or equal to the melting point or softening point of the polyamide of the composition.

52. (Previously Presented) The process according to Claim 50, wherein the temperature of step a) is greater than or equal to the deprotection temperature of the isocyanate functions of compound A.

53. (Previously Presented) The process according to Claim 50, wherein an additive selected from the group consisting of a pore-forming agent, a nucleating agent, a surfactant, a plasticizer, reinforcing fillers, matting agents, pigments, colorants, heat stabilizers, light stabilizers, bioactive agents, antisoiling agents or antistatic agents is further added to the composition in step a).

54. (Previously Presented) The process according to Claim 50, wherein the foam obtained in step c) has a mass per unit volume of less than or equal to 0.5 g/cm³.

55. (Currently Amended) An expandable polyamide composition comprising:

A: a compound having at least one isocyanate function protected with a protecting group; and

B: a polyamide; wherein the polyamide has at least one acid function, optionally a carboxylic acid function,

wherein said composition produces a foam upon the reaction of the components A and B and does not require the presence of additional compounds to produce the foam, and the polyamide is present in the composition in an amount greater than the amount of the compound having at least one isocyanate function.

56. (Previously Presented) The composition of Claim 31, wherein the polyamide is a polycondensate of dicarboxylic acids and diamines or a polycondensate of lactams and/or amino acids.

57. (Previously Presented) The process according to Claim 50, wherein the polyamide is a polycondensate of dicarboxylic acids and diamines or a polycondensate of lactams and/or amino acids.

58. (Previously Presented) The composition of Claim 55, wherein the polyamide is a polycondensate of dicarboxylic acids and diamines or a polycondensate of lactams and/or amino acids.

59. (Currently Amended) An expandable polyamide composition comprising:

A: a compound having at least one isocyanate function protected with a protecting group;

B: a polyamide selected from the group consisting of polyamide 6; polyamide 6,6; polyamide 11; polyamide 12; polyamide 4,6; polyamide 6,10; polyamide 6,12; polyamide 12,12; polyamide 6,36; semiaromatic polyamides; polyphthalamides comprising units of terephthalic acid; polyphthalamides comprising units of isophthalic acid; polyphthalamides comprising units of terephthalic acid and isophthalic acid, and mixtures thereof; and

C: a compound having at least one acid function, optionally a carboxylic acid function,

wherein said composition produces a foam upon the reaction of the components A and C and does not require the presence of additional compounds to produce the foam.

60. (Currently Amended) A process for preparing a polyamide foam from an expandable polyamide composition, comprising the steps of:

a) heating an expandable foam composition comprising:

(A) a compound having at least one isocyanate function protected with a protecting group;

(B) a polyamide selected from the group consisting of polyamide 6; polyamide 6,6; polyamide 11; polyamide 12; polyamide 4,6; polyamide 6,10; polyamide 6,12; polyamide 12,12; polyamide 6,36; semiaromatic

polyamides; polyphthalamides comprising units of terephthalic acid;
polyphthalamides comprising units of isophthalic acid; polyphthalamides
comprising units of terephthalic acid and isophthalic acid, and mixtures
thereof; and

(C) a compound having at least one acid function, optionally a carboxylic acid
function,

wherein said composition produces a foam upon the reaction of the
components A and C and does not require the presence of additional
compounds to produce the foam, and

to a temperature of at least 80°C to obtain an alveolar structure,

- b) stabilizing the alveolar structure obtained in step a), and
- c) recovering the foam obtained in step b).

61. (Currently Amended) An expandable polyamide composition
comprising:

A: a compound having at least one isocyanate function protected with a protecting
group; and

B: a polyamide selected from the group consisting of polyamide 6; polyamide 6,6;
polyamide 11; polyamide 12; polyamide 4,6; polyamide 6,10; polyamide 6,12;
polyamide 12,12; polyamide 6,36; semiaromatic polyamides; polyphthalamides
comprising units of terephthalic acid; polyphthalamides comprising units of
isophthalic acid; polyphthalamides comprising units of terephthalic acid and
isophthalic acid, and mixtures thereof,

wherein said composition produces a foam upon the reaction of the components A

and B and does not require the presence of additional compounds to produce the foam

62. (Previously Presented) The composition of Claim 59, wherein the polyamide is selected from polyamide 6 and polyamide 6,6 and blends and copolymers thereof.

63. (Previously Presented) The composition of Claim 60, wherein the polyamide is selected from polyamide 6 and polyamide 6,6 and blends and copolymers thereof.

64. (Previously Presented) The composition of Claim 61, wherein the polyamide is selected from polyamide 6 and polyamide 6,6 and blends and copolymers thereof.

65. (Previously Presented) The composition of Claim 31, wherein the polyamide is present in the composition in an amount of at least 51% by weight of the total composition.

66. (Previously Presented) The composition of Claim 50, wherein the polyamide is present in the composition in an amount of at least 51% by weight of the total composition.

67. (Previously Presented) The composition of Claim 55, wherein the polyamide is present in the composition in an amount of at least 51% by weight of the total composition.